

## ABSTRACT

A system and method for creating run time executables in a configurable processing element array is disclosed. This system and method includes the 5 step of partitioning a processing element array into a number of defined sets of hardware accelerators, which in one embodiment are processing elements called "bins". The system and method then involves decomposing a program description in object code form into a plurality of "kernel sections", where the kernel sections are defined as those sections of object code which are 10 candidates for hardware acceleration. Next, mapping the identified kernel sections into a number of hardware dependent designs is performed. Finally, a matrix of the bins and the designs is formed for use by the run time system.

003048.P008 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100